

SPECIFICATION AMENDMENTS:

Please amend the specification as follows:

Page 4, line 11, through line 22, please amend the current paragraphs as follows:

The outputs from both filters Y_{cf} and Y_{cd} are added by an adder 240 to become input data Y_c . The input data Y_c is fed into a hard decision block 230. Then, the hard decision block 230 produces equalized data $HD(Y_c)$. After a one-tap delay block 246, the equalized data $HD(Y_c)$ is fed into FBF 220.

On the other hand, an error E_c from an adder 242 defines a vector of error values computed as the difference between an output C_k of a multiplexer 244 and the input data Y_c . In the embodiment, the DFE can operate in a barker mode or a complementary code keying (CCK) mode. The operating mode can be selected by control signals S_{c1} and S_{c2} input to the multiplexer 244.

Page 6, line 12, through page 7, line 2, please amend the current paragraphs as follows:

After a symbol time delay block, which is 8-tap delay block 260 in the embodiment, a symbol Y_{cs} which comprises eight input data Y_c is fed in to an adder 290 . The ISI canceller 250 is composed from a symbol-based feedback filter (FBF) 270 and a CCK or barker decoder 280. The symbol-based FBF 270 adapts the tap weights to compensate for ISI generated by the last symbol. The outputs from the symbol-based FBF 270 Y_{bs} and the symbol Y_{cs} are added by an adder 290 to become an input symbol Y_s .

The input symbol Y_s is fed into the CCK or barker decoder 280. Then, the CCK or barker decoder 280 produces a decoded symbol $C(Y_s)$. An error E_s from an adder 296 defines a vector of error values computed as the difference between the decoded symbol $C(Y_s)$ and the input symbol Y_s after a one-tap delay block 294.

Then, the error $[[E_c]] \underline{E}_s$ and the input symbol Y_s after a one-tap delay block 292 is input to a Toeplitz matrix block 272. The TMB 272 in the figure stands for the coefficient-update block for the symbol-based FBF 270.

Page 7, line 6, through line 13, please amend the current paragraph as follows:

The adaptive algorithm is:

$$H(m+1)=H(m)+\mu T\{\text{conj}(E(m)) \bullet C(m+1)\}; \quad (9)$$

where $H(m)$ is coefficients at a symbol time m ;

$H(m+1)$ is coefficients at a symbol time $(m+1)$;

$[[i]] \mu$ is a predetermined gain;

T is a Toeplitz Matrix;

$E(m)$ is the vector of error values; and

$C(m+1)$ is the decoded symbol at the symbol time $(m+1)$.